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# CyberMaster

**Precision Air Conditioning**



# COMPANY PROFILE

Coolnet focuses on the R&D, production, and application of data center integrated solutions. As technical consulting, product supply, system integrator, and service provider, it is committed to serving customers in the fields of communication equipment rooms, data centers, smart construction, and energy management.

Our solutions include data center temperature, humidity, and energy-saving solutions, small and medium-sized computer room temperature control solutions, micro-module data center solutions, micro-module cabinet solutions, container, and modular data center solutions, communication outdoor cabinet temperature control and energy saving Solutions, cabinet temperature and humidity, and energy-saving solutions.

Has rich research and manufacturing experience in the field of data center equipment, with world-class laboratories, production testing equipment, and a complete line of key equipment rooms. And passed the ISO9001 quality management system certification, ISO14001 environmental management system certification, and the products have passed CE certification, CCC certification, CQC certification, CRAA quality certification, etc.

We are committed to "paying attention to customer needs and realizing customer value" and establishing a win-win cooperation pattern with customers. To become your most trustworthy, most grateful, most professional, most practical, and most reliable partner with the best vision. We will "make every effort to provide value for money products and services to make customers more competitive", and continue to explore and innovate.



## Introduction

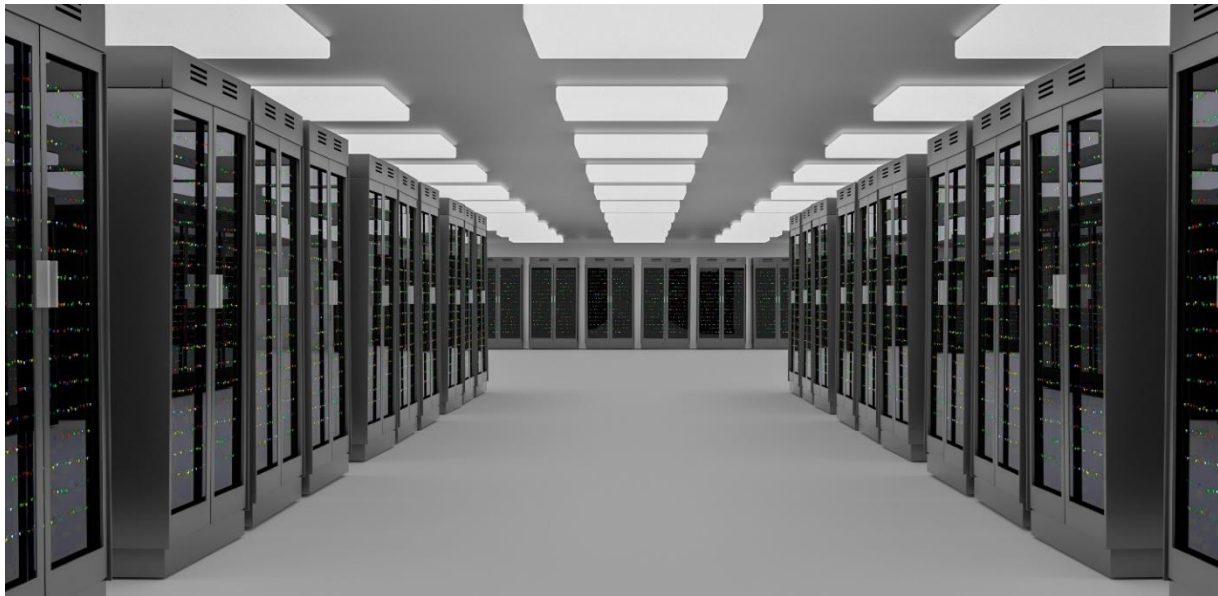
CyberMaster series precision air conditioning system adopts international cutting-edge constant temperature and constant humidity technology, which is designed and developed for a precision environment.

This series of products is dedicated to equipments with high precision control requirements of temperature, humidity, and cleanliness and requires equipment continuous operation 24 hours\*365 days.



## Applications

- Computer room and data center
- Switch room and mobile center station in telecommunication
- High-tech environment and lab
- Industrial automation control room and precision manufacturing workshop.
- Standard test room and calibration center
- UPS and battery room
- Test room in the hospital
- Biochemical culture room

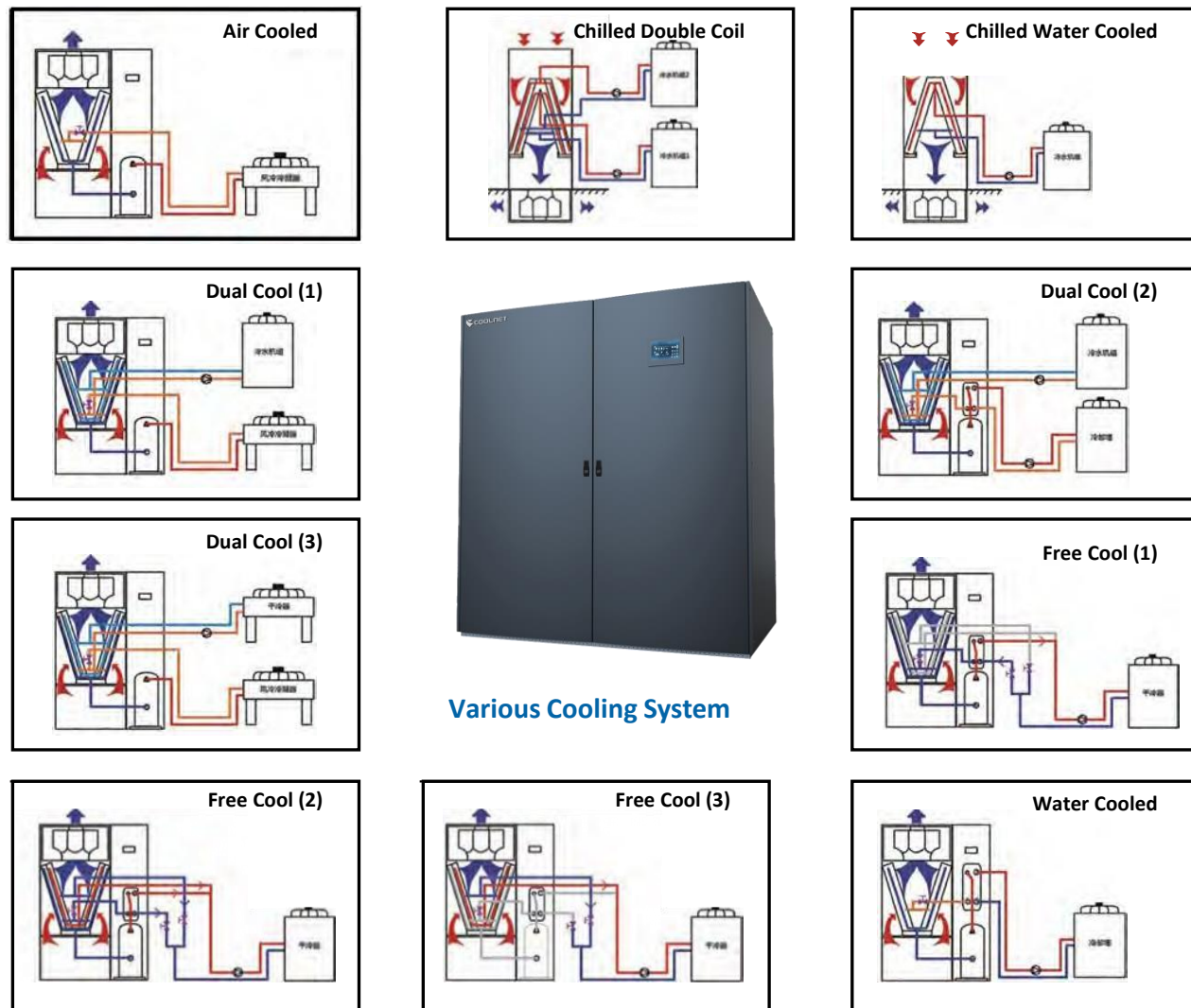




## Model Conflgurtlon for CyberMaster

Item	Code	Description
1 Series Name	CY	CyberMaster precision cooling
2 Cooling pattern	A	Air Cooled
	w	Water Cooled
	C	Chilled Water
	D	Dual Cooling
3 Compressor Quantity	S/T/N	Single compressor/dual compressor /no compressor
4 Cooling Capacity	0-9	5-100KW
5 Air Discharge	D/U	Downflow/Upflow

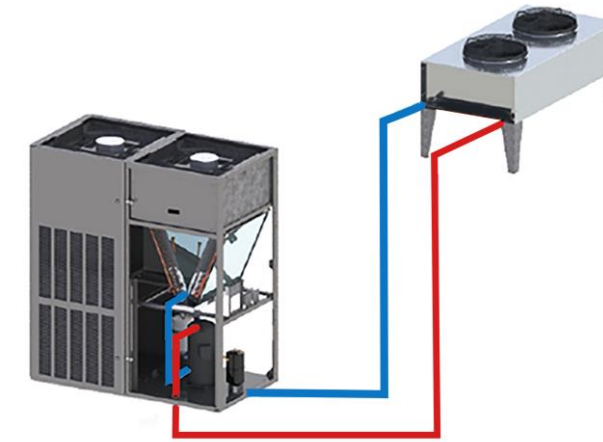
Cybermaster air-cooled, water-cooled, glycol-cooled, chilled water cooled , chilled double coil type, CW+DX Dual Cool (air-cooled chilled water, water-cooled chilled water, glycol cool chilled water), There are more than ten kinds of cooling type, such as glycol free cooling, etc., to meet various types of application requirements.



## Refrigeration mode

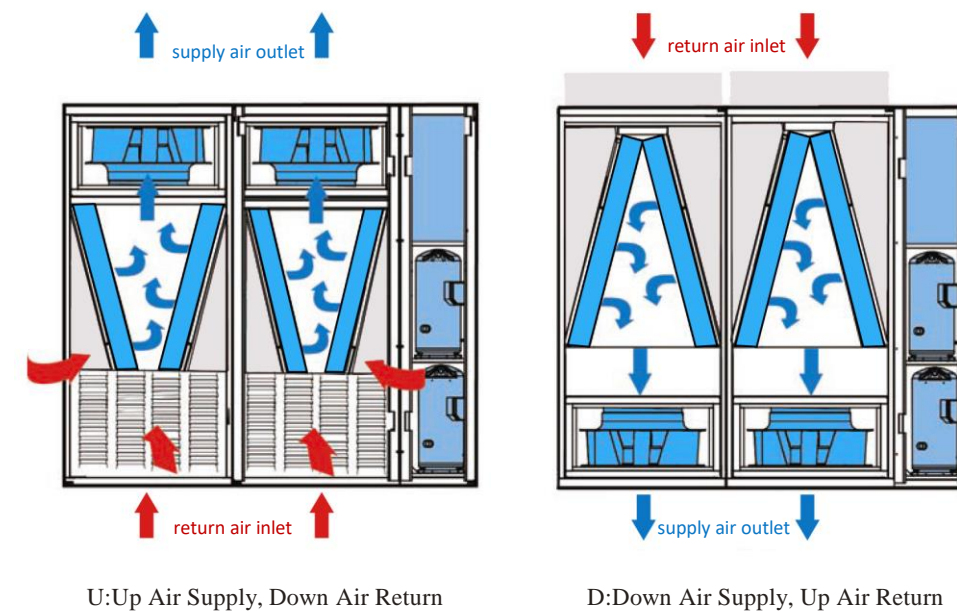
### Air Cooled

The air flow in the room is driven by the unit's indoor fan, during which the indoor air flows through the air conditioning evaporator, transferring heat to the refrigerant, which is transported to the outdoors via the refrigeration system piping and disperses the heat to the outdoor environment through the condenser. The air conditioning unit and the outdoor condenser are connected by closed refrigeration ducts.



### Air discharge

The CyberMaster series units are available in a variety of Air discharge, which can be selected by the user according to the specific use.



Special note: Only two main air supply methods are listed here, for other air supply methods please contact Coolnet

## Premium performance

Working environment	Operating voltage and frequency: 380V±10% 50±3Hz Temperature range: -40~50°C
Air volume of each fan	7650-16000 m³/h
Cooling capacity range	23.5-102KW
Energy efficiency ratio (EER)	EER≥3.0
Sensible heat ratio(SHR)	0.91-0.94
External static pressure (ESP)	20-300Pa
Set Temperature	15-35±1°C
Set Humidity	30-80%±5%
Filter screen grade	> G4
Protection functions	System protection: The system is equipped with phase sequence protection, over/under voltage protection and phase loss protection as standard, with optional surge protection, phase sequence fault tolerance and water leakage alarm. Component protection: Standard configuration as compressor protection, fan alarm, temperature and humidity sensor failure, humidifier protection, heater protection, optional filter blocking alarm, etc.
Monitoring functions	Supports RS-485 communication interface and MODBUS-RTU protocol (standard) Supports Ethernet interface, and supports MODBUS-TCP, SNMP, HTTP and other protocols (optional) Supports WEB-based access to the unit (optional)
IP Class	IP54 (outdoor unit), IP20 (indoor unit)
Insulation Level	F
Fire protection grade	A
Safety devices	Optional smoke alarm, fire alarm
Informative interface	A) Display specification: 7" touchscreen colour display as standard B) Contents of the display: 1. Real-time operating status of the unit 2. Automatic maintenance prompts, fault diagnosis, component alarm messages, etc 3. Graphical display of temperature and humidity curves, output status of all components and component running time C) Information recording time. 1. the operating time of the entire unit and its components. 2. all operational actions of the unit. 3. 500 historical alarm records
Other features	Energy efficient units with EER greater than 3.6 Multiple supply and return air temperature control methods Variable set point control

## CyberMaster Series of DX Unit (23.5-102 KW)

### Precise temperature and humidity Control

- CyberMaster has a constant temperature and humidity function, temperature control accuracy of ±1°C, and relative humidity control accuracy of ±5%.

### Intelligent Communication Function

- RS485 standard interface is compatible with Modbus protocol. Through the communication interface, Can be access Dynamic environment monitoring , DCIM, BMS, remote monitoring systems.
- CyberMaster can be equipped with a TCP/IP communication card for SNMP communication interface and direct access via network IP address.

### Wide Range of Cooling Capacity

- 23.5KW-102KW
- Single circuit indoor unit, dual circuit indoor unit
- Single circuit condenser, dual circuit condenser

### High reliability

- Strictly complied with CE and IEC standards
- High quality components with strict certification
- Strict factory testing and commissioning before delivery

### High Adaptability

- Multi-air discharge choices including Down flow and Up flow and so on.
- Multiple monitoring interface.
- Suitable for various ambient temperature(Optional low temperature kits).
- Customized design available.

### High Energy Efficiency

- Copland Efficient and quiet flexible scroll compressor
- Efficient EC fan, continuous airflow adjustment
- Controller ensures optimum cooling efficiency
- Electrode humidifier to realize precise humidity control
- Precision Electronic Expansion Valve precision cooling control

### Environment Friendly Refrigerant: R410A





## Leading Technology, Excellent Components

**Expansion valve**  
Electronic Expansion Valve with high control precision and adjustable type is used as a refrigerant throttling device.

**Evaporator**  
Unique evaporator design with a large heat exchange area and high heat transfer efficiency.

**Air pressure switch**  
Configurable filter blockage and airflow loss are two functions of air pressure switches for accurate monitoring of filter status and fan status to ensure normal operation of the unit.

**Heating**  
PTC electric heater with high conduction efficiency, equipped with an overheat protection device, is efficient, reliable, and safe. Heater quantity can be customized.

**FAN**  
The backward centrifugal EC fan with high efficiency and reliability is adopted, featuring large air volume, stable operation, long air supply distance, and wide static pressure range adjustment. Fans with high external static pressure can be selected.

**Controller**  
Equipped with RS485 intelligent communication interface, group control function avoid competition operation, optional large touch screen, true color display, touch operation, humanized icon, and curve design.

**Compressor**  
Copeland flexible scroll compressor with high efficiency, optional Danfoss EC compressor, which can regulate cooling capacity from 10% to 100%, can dynamically output cooling capacity according to demand, energy saving, and high efficiency.

**Humidifier**  
Electrode humidifier with high efficiency and large humidification, automatic flushing.

## Technical Data of DX Unit(Air Cooled,Water Cooled)

Model: CYA		S23D/U	S26D/U	S28D/U	S31D/U	S35D/U	S40D/U	S45D/U	S50/U	
Power Supply		380V 3Ph-50HZ								
Air Discharge		Upflow/Downflow								
Cooling Capacity :24°C/50%RH										
Total Capacity	KW	23.5	26.8	28.3	31.5	35.5	40.2	45.6	50.5	
Sensible	KW	21.6	24.2	26.1	28.9	33.2	37.6	42.2	45.7	
FLA	A	36.1	36.1	42.4	42.4	44.0	51.0	52.3	59.1	
AEER	w/w	3.6	3.6	3.7	3.7	3.7	3.7	3.6	3.6	
Air Flow	m³/h	7650	7800	8800	9200	10500	11500	12800	13500	
Compressor		Hermetic scroll								
Refrigerant		R410A								
Compressor quantity	PC	1	1	1	1	1	1	1	1	
Fan Section		Centrifugal EC fan								
Fan quantity	PC	1	1	1	1	1	1	1	1	
Excess pressure outside	Pa	Standard pressure is 20Pa, adjustable from 20-300Pa								
Rated Power	KW	1.1	1.1	1.8	1.9	2.1	2.2	2.7	3.1	
Rated Current	A	1.8	1.9	2.9	3.1	3.4	3.2	4.2	4.9	
Fincoil evaporator										
Type of fins		Hydrophilic								
Fin pitch	mm	1.8								
Air filter		Standard EN799								
Level		≥G4								
Dust interception rate		>95%								
Fire resistance level		1								
Reheat Section										
Capacity	KW	6	6	6	6	6	9	9	9	
Current	A	10	10	10	10	10	14	14	14	
Material		PTC								
Humidifier Section										
Electrode type										
Capacity	Kg/h	5	5	5	5	5	8	8	8	
Rated Current	A	6	6	6	6	6	10	10	10	
Physical										
Dimension:W×D×H	mm	890×983×1975					1315×983×1975			
Weight	Kg	338	345	358	366	368	453	468	488	
Connection Size										
Liquid pipe	mm	15.88					19.05			
Gas Pipe	mm	22					22			
Inlet Pipe of Humidifier(Female)	In	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	
Drain Pipe-DN	mm	25	25	25	25	25	25	25	25	
Breakers Cables										
Recommended Breaker (Indoor Unit)	A	50	50	50	50	63	80	80	80	
Cableds (Indoor Unit)	mm²	4*10+1*6	4*10+1*6	4*10+1*6	4*10+1*6	4*10+1*6	4*10+1*6	4*16+1*10	4*16+1*10	
Condenser (CY)		0451	0451	0522	0522	0582	0622	0742	0832	

Note:

(1)Air-return temperature 24°C, Relative humidity 50%RH; Outdoor dry bulb temperature 35 °C.

(2)Standard air Discharge: Upflow, Down displacement, others contact Coolnet.

## Technical Data of DX Unit(Air Cooled,Water Cooled)

Model: CYA	T41D/U	T45D/U	T50D/U	T55D/U	T61D/U	T70D/U	T76D/U	T85D/U	T90D/U	T100D/U		
Power Supply	380V 3Ph-50HZ											
Air Discharge	Upflow/Downflow											
Cooling Capacity :24°C/50%RH												
Total Capacity (1)	KW	41.9	45.3	50.5	55.4	61.4	70.5	76.2	85.5	91	102	
Sensible	KW	38.8	42.5	47.8	51.6	57.5	65.2	71.2	79.5	84.5	95.7	
FLA	A	55.2	55.2	63.5	63.5	79.8	83.0	89.0	89.0	99.6	113.2	
AEER	W/W	3.6	3.6	3.7	3.7	3.6	3.6	3.6	3.6	3.6	3.6	
Air Flow	m³/h	11800	13000	15600	16000	18400	21000	22300	23000	25600	27000	
Compressor	Hermetic scroll											
Refrigerant	R410A											
Compressor quantity	PC	2	2	2	2	2	2	2	2	2	2	
Fan Section	Centrifugal EC fan											
Fan quantity	PC	1	1	1	1	2	2	2	2	2	2	
Rated power	KW	2.1	2.7	3.1	3.5	3.8	4.3	4.1	4.2	5.4	6.2	
Rated current	A	3.2	4.2	4.9	5.5	6.2	6.8	6.2	6.4	8.5	9.8	
Excess press outside(2)	Pa											
Fin coil evaporator												
Fin pitch	mm	1.8										
Air filter	Standard EN799											
Level	≥G4											
Dust interception rate	>95%											
Fire resistance level	1											
Reheat Section												
Total heating capacity	KW	9	9	9	9	9	9	9	9	15	15	
Current	A	14	14	14	14	14	14	14	14	23	23	
Material	PTC											
Humidifier Section	Electrode type											
Capacity	Kg/h	8	8	13	13	13	13	13	13	13	13	
Rated Current	A	10	10	15	15	15	15	15	15	15	15	
Physical												
Dimension:W×D×H	mm	1315×983×1975				1740×983×1975			2165×983×1975			
Weight	KG	485	485	492	518	652	655	685	708	716	735	
Connection Size												
Liquid pipe	mm	15.88							19.05			
Gas Pipe	mm	22							22			
Inlet Pipe of Humidifier(Female)	In	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	
Drain Pipe-ID	mm	25	25	25	25	25	25	25	25	25	25	
Breakers Cables												
Recommended Breaker (Indoor Unit)	A	80	80	80	100	100	125	125	150	150	150	
Cables(Indoor Unit)	mm²	4*16+1*10	4*16+1*10	4*16+1*10	4*16+1*10	4*16+1*10	3*25+2*16	3*25+2*16	3*25+2*16	3*50+2*25	3*50+2*25	
Condenser (CY)		2*0351	2*0351	2*0451	2*0451	2*0522	2*0582	2*0662	2*0662	2*0742	2*0832	

Note:  
 (1)Air-return temperature 24°C, Relative humidity 50%RH; Outdoor dry bulb temperature 35 °C.  
 (2)Standard air Discharge: Upflow, Down displacement, others contact Coolnet.

## Technical Data of CW Chilled Water Unit

Model: CYC	N31 D/U	N41 D/U	N51 D/U	N60 D/U	N71 D/U	N82 D/U	N91 D/U	N100 D/U	N112 D/U	N121 D/U	N131 D/U	N140 D/U	N152 D/U	N160 D/U	N171 D/U	N180 D/U	N190 D/U	N200 D/U	
Specification(Chilled water T7/12°C) 24°C/50%RH																			
Total Capacity (1)	KW	31.7	43.9	53.1	62.1	72.5	86.6	93.8	105.2	115.8	126.1	132.3	140.6	154.7	164.3	175.7	183.6	193.8	205.6
Sensible	KW	27.6	38.1	46.8	52.5	63.2	75.4	83.6	88.9	100.5	109.5	115.4	123.9	130.7	142.6	151.8	157.1	162.3	170.6
Water Flow	L/S	5.63	7.73	9.29	10.85	12.63	15.05	16.28	18.23	20.05	21.82	22.88	24.28	26.72	28.37	30.32	31.67	33.42	35.45
Water Pressure Drop	Kpa	61	59	71	75	85	60	69	75	82	87	96	99	87	93	96	106	109	114
Specification (Chilled water T10/15°C) 28°C/40%RH																			
Total Capacity (1)	KW	28.5	39.5	47.8	55.8	65.2	78.5	85.3	95.3	104.5	113.8	119.2	125.6	141.1	150.2	159.0	167.1	174.5	185.3
Sensible	KW	28.5	39.5	47.8	55.8	65.2	78.5	85.3	95.3	104.5	113.8	119.2	125.6	141.1	150.2	159.0	167.1	174.5	185.3
Water Flow	m³/h	4.91	6.80	8.23	9.61	11.23	13.52	14.69	16.42	18.00	19.60	20.53	21.64	24.31	25.87	27.39	28.79	30.06	31.92
Water Pressure Drop	Kpa	56	53	64	68	74	54.8	61.2	67.6	70.9	78.6	86.6	88.5	75.8	81.7	82.9	89.5	93.4	96.5
EC Fan																			
Fan quantity	PC	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	3
Airflow	m³/h	8900	9700	11600	12500	13300	18000	21200	23000	24000	24600	25200	26500	32600	35200	36800	37400	38600	39900
Excess press outside (2)	Pa	20-300 Adjustable																	
Reheat Section																			
Total heating capacity	KW	6	6	6	6	6	9	9	9	9	9	9	12	12	12	12	12	12	12
Rated Current	A	10	10	10	10	10	14	14	14	14	14	14	14	19	19	19	19	19	19
Level	n	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3
Humidifier Section	Electrode type																		
Capacity	Kg/h	5	5	5	5	5	13	13	13	13	13	13	13	13	13	13	13	13	13
Rated power	KW	3.75	3.75	3.75	3.75	3.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75	9.75
Rated Current	A	6	6	6	6	6	15	15	15	15	15	15	15	15	15	15	15	15	15
Physical																			
Dimension:W×D×H	mm	915×996×1975						1790×996×1975						2665×996×1975					
Weight	KG	254	283	285	286	305	476	477	478	526	528	530	570	702	705	738	750	752	753
Breakers & Cables																			
Recommended Breaker	A	20	20	20	25	25	30	30	30	40	40	40	40	40	50	50	50	50	50
Cables	mm2	4	4	4	6	6	10	10	10	10	10	10	10	10	16	16	16	16	16

Note:  
 (1)Air-return temperature 28°C, Relative humidity 40%RH; water inlet/outlet: T7/12°C, T10/15°C.  
 (2)Standard air Discharge: Upflow, Down displacement, others contact Coolnet.

## Technical Data of DualCoolUnits(DX+CW)

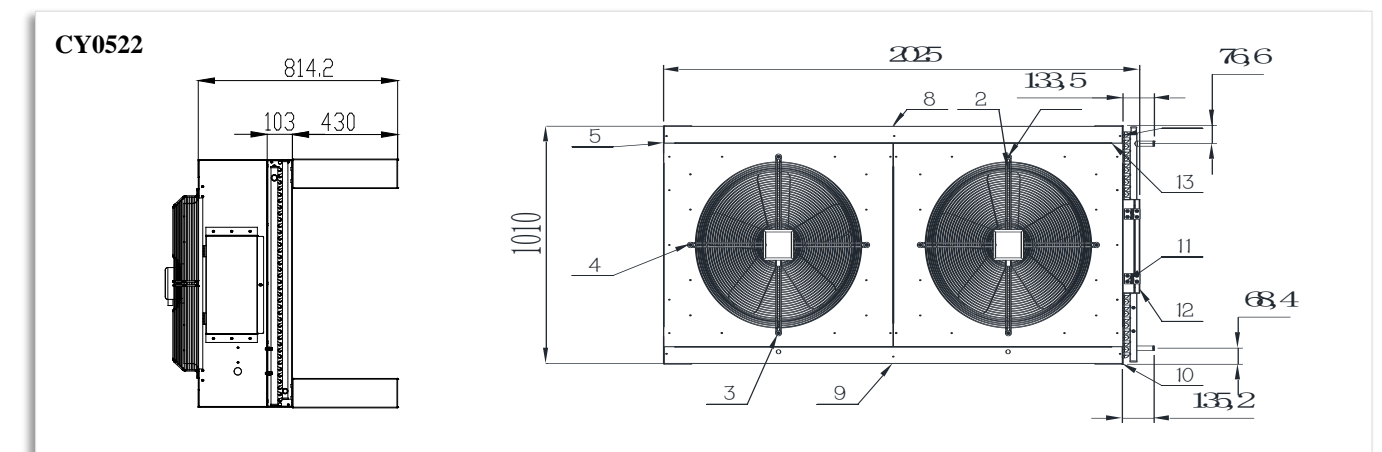
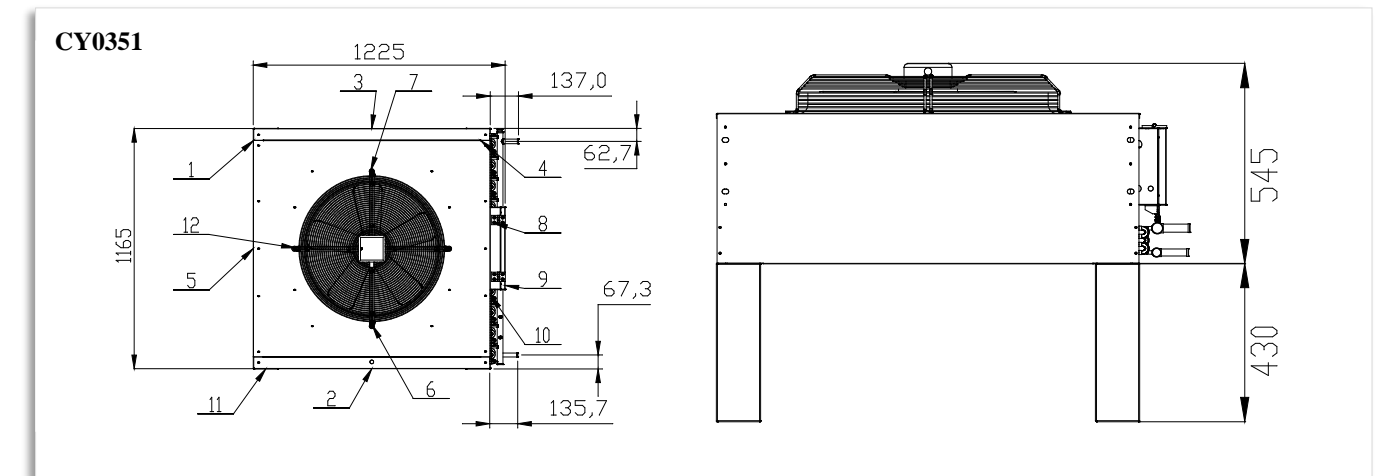
Model: CYD		S26D/U	S31D/U	S35D/U	S40D/U	S45D/U	T41D/U	T50D/U	T55D/U	T61D/U	T70D/U	T85D/U	T90D/U	T100D/U	
Power Supply		380V 3Ph-50HZ													
Air Discharge		Upflow/Downflow													
Cooling Capacity :24°C/50%RH															
DX	Total Capacity	KW	26.8	31.5	35.5	40.2	45.6	41.9	50.5	55.4	61.4	70.5	85.5	90.8	102
	Sensible	KW	24.2	28.9	33.2	37.6	42.2	38.8	47.8	51.6	57.5	65.2	79.5	84.5	95.7
	AEER	W/W	3.6	3.7	3.7	3.7	3.6	3.6	3.7	3.7	3.6	3.6	3.6	3.6	3.6
CW	water inlet/outlet		T7/12°C												
	Total Capacity	KW	33.6	33.6	44.2	44.2	56.4	44.2	56.4	59.1	73.5	76.4	89.2	92.5	92.5
	Sensible	KW	29.2	29.2	37.7	37.7	48.6	37.7	48.6	51.2	63.2	66	77.8	81.7	81.7
	Flow Rate	m³/h	5.8	5.8	7.6	7.6	9.7	7.6	9.7	10.1	12.6	13.1	15.3	15.9	15.9
Compressor		Hermetic scroll													
Refrigerant		R410A													
Compressor quantity	PC	1	1	1	1	1	2	2	2	2	2	2	2	2	
Fan Section		Centrifugal EC fan													
Airflow	m³/h	7800	9200	10500	11500	12800	11800	15600	16000	18400	21000	23000	25600	27000	
Fan quantity	PC	2	2	2	2	2	2	2	2	2	2	3	3	3	
Rated current	A	2.8	3.5	4.1	4.4	4.9	4.4	4.4	5	5.2	5.2	16.5	16.5	16.5	
Rated power	W	1200	1320	2000	2150	2400	1800	2000	3000	3300	3900	5400	6300	6300	
Excess press outside(2)	Pa	20-300 Adjustable													
Air filter		Standard EN799													
Level		≥G4													
Dust interception rate		>95%													
Fire resistance level		1													
Reheat Section															
Total heating capacity	KW	6	6	6	9	9	9	9	9	9	9	9	15	15	
Material		PTC													
Humidifier Section		Electrode type													
Capacity	Kg/h	5	5	5	8	8	8	8	8	13	13	13	13	13	
Physical															
Dimension:W×D×H	mm	890×983×1975			1315×983×1975				1740×983×1975			2165×983×1975			
Weight	KG	393	490	590	595	610	605	615	620	625	625	985	992	1015	
Connection Size															
Liquid pipe	mm	15.88			19.05		15.88			19.05					
Gas Pipe	mm	22			22		22			22					
Inlet Pipe of Humidifier(Female)		G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	G1/2"	
Drain Pipe-ID	mm	25	25	25	25	25	25	25	25	25	25	25	25	25	
Breakers & Cables															
Recommended Breaker (Indoor Unit)	A	50	50	63	80	80	80	80	100	100	125	150	150	150	
Cableds (Indoor Unit)	mm²	4*10+1*6	4*10+1*6	4*10+1*6	4*10	4*16+1*10	4*16+1*10	4*16+1*10	4*16+1*10	4*16+1*10	3*25+2*16	3*25+2*16	3*50+2*25	3*50+2*25	
Condenser Model	mm²	0451	0522	0582	0662	0742	2*0351	2*0451	2*0451	2*0522	2*0582	2*0662	2*0742	2*0832	

Note:  
 (1)Air-return temperature 24°C, Relative humidity 50%RH; Outdoor dry bulb temperature 35 °C.  
 (2)Standard air Discharge: Upflow, Down displacement, others contact Coolnet.

## Technical Data of CyberMater(>20KW) Air Cooled Condensor

Model: CY	0351	0451	0522	0582	0662	0742	0832	0893
Power system	220V/50 HZ							
Fan power (W)	620	620	1240	1240	1240	1240	1240	1860
Fans Quantity	1	1	2	2	2	2	2	3
Airflow (L/S)	2320	2680	3350	3740	4250	4730	5350	5790
Noise 1 dB(A) Unit is put in open area which is 1-meter away and 1-meter high from outdoor unit	63.8	63.9	63.1	63.2	63.7	64.2	64.4	64.8
Noise 2 dB(A) Unit is put in open area which is 10-meter away and 1-meter high from outdoor unit	50	50	51	52	53	54	54	55
Weight(KG)	112	115	156	180	182	206	213	252
Width (W) mm	1225	1315	2025	2325	2125	2325	2425	2625
Height(H) mm	1165	1165	1015	1065	1065	1165	1165	1165
Depth (D) mm①	545	545	520	520	545	545	545	545

①Thickness is the size of the external unit without the feet, and the standard height of the feet is 430mm.  
 ②Please contact our company for unfinished parameters or other customization requirements.

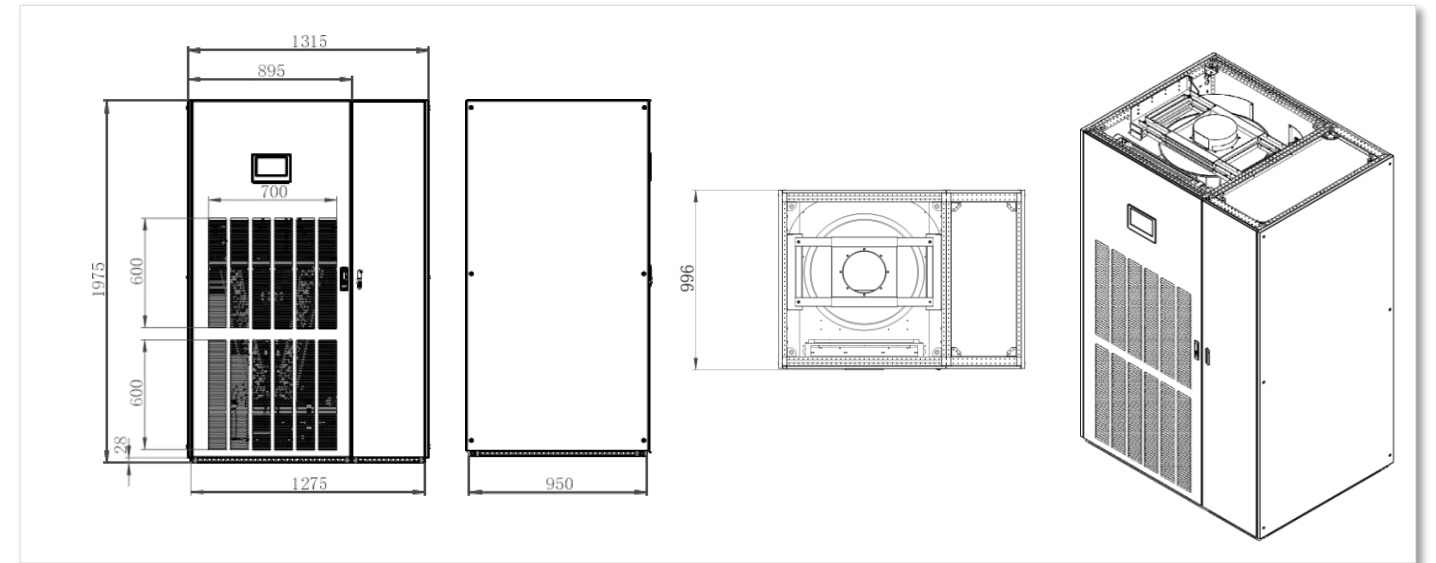




## Modular structure design



Corresponding model : **CYA-T41D/U** **CYA-T45D/U** **CYA-T50D/U** **CYA-S50D/U** **CYD-S40D/U**  
**CYD-S45D/U** **CYD-T41D/U** **CYD-T50D/U** **CYD-T55D/U**



Corresponding model : **CYC-N82D/U** **CYC-N91D /U** **CYC-N100D/U** **CYC -N112D/U**  
**CYC-N121D/U** **CYC-N131D/U** **CYC-N140D/U**

